

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

TRANSLATION
PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year)	See Form PCT/ISA/210 (sheet 2)
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Applicant's or agent's file reference 25163WO/23		FOR FURTHER ACTION See paragraph 2 below	
International application No. PCT/EP2005/003399	International filing date (day/month/year) 31.03.2005	Priority date (day/month/year) 06.04.2004	
International Patent Classification (IPC) or both national classification and IPC B04B1/20, B04B11/00			
Applicant WESTFALIA SEPARATOR AG			

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/003399

Box No. 1

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language
_____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
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International application No.

PCT/EP2005/003399

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>2-20</u>	YES
	Claims	<u>1</u>	NO
Inventive step (IS)	Claims	<u>3-20</u>	YES
	Claims	<u>1, 2</u>	NO
Industrial applicability (IA)	Claims	<u>1-20</u>	YES
	Claims	<u></u>	NO

2. Citations and explanations:

1 Reference is made to the following documents:

D1: FR 2 057 600 A (SAGET PIERRE) 21 May 1971
(1971-05-21)

D2: FR 2 054 722 A (SAGET PIERRE) 7 May 1971
(1971-05-07)

D3: WO 01/85349 A (BAKER HUGHES GMBH; FELDKAMP,
BERNWARD; SCHILP, REINHOLD; MUELLER, RAL) 15
November 2001 (2001-11-15)

2 INDEPENDENT CLAIM 1

2.1 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 1 is not novel within the meaning of PCT Article 33(2).

Document D1 discloses (figure 3) (the references between parentheses apply to said document): A solid-bowl screw-type centrifuge (figure 3), comprising a spinner drum (1) which rotates about a horizontal rotational axis and has a weir (2) for discharging a fluid from the spinner drum (1),

WRITTEN OPINION OF THE
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International application No.

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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
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said weir having a passage with a plurality of passage openings (4) in a drum cover (2), wherein a deflector plate (discharge collar shown in the figure) that is stationary when in operation is arranged in front of the drum cover (2) and outside the spinner drum (1) and extends away from the drum cover (2) in sections, said deflector plate having an inner sheath whose distance from the rotational axis is not constant, but extends or increases.

- 2.2 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 1 does not involve an inventive step within the meaning of PCT Article 33(3).

Document D2 discloses (figure 1) (the references between parentheses apply to said document): A solid-bowl screw-type centrifuge, comprising a spinner drum (1) which rotates about a horizontal rotational axis and has a weir (paroi 15) for discharging a fluid from the spinner drum (1), said weir having a passage with at least one passage opening in an axial end region, and wherein a deflector plate (collier de reprise 22) that is stationary when in operation is arranged in front of the drum cover and outside the spinner drum and extends away from the drum cover (24) at least in sections, said deflector plate having an inner sheath whose distance from the rotational axis is not constant, but extends or increases.

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Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

- 2.3 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 1 does not involve an inventive step within the meaning of PCT Article 33(3).

Document D3 discloses (the references between parentheses apply to said document): A solid bowl centrifuge (title), in particular a solid-bowl screw-type centrifuge (page 1, lines 10-13), comprising a spinner drum (10) which rotates about a horizontal rotational axis and has a weir (page 5, lines 20-27) for discharging a fluid from the spinner drum (10), said weir having a passage with a plurality of passage openings (13) in a drum cover (14), wherein a deflector plate that is stationary when in operation is arranged in front of the drum cover (14) and outside the spinner drum (10) and extends away from the drum cover (14) at least in sections, said deflector plate having an inner sheath whose distance from the rotational axis is not constant, but extends or increases. The obliquely arranged ring-shaped cup (20) in the embodiment shown in figure 3 forms a deflector plate for the axially discharged centrate. The inner sheath, at least of that section of the ring-shaped cup situated above the rotational axis, is located at a distance to the rotational axis that increases as the distance from the drum cover increases.

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Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
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In the solid-bowl centrifuge according to D3, there is also an annular gap between the passage and the centrifuge housing wall (18), said gap being surrounded at least partially in its axial extension by the oblique ring-shaped cup 20 (figure 3) (claim 2).

3. In the combination of features contained in dependent claim 2, in contrast, the option involving a throttle disc provided outside the spinner drum is neither known from nor rendered obvious by the available prior art.

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- 2.2 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claim 1 does not involve an inventive step within the meaning of PCT Article 33(3).

Document D2 discloses (figure 1) (the references between parentheses apply to said document): A solid-bowl screw-type centrifuge, comprising a spinner drum (1) which rotates about a horizontal rotational axis and has a weir (paroi 15) for discharging a fluid from the spinner drum (1), said weir having a passage with at least one passage opening in an axial end region, and wherein a deflector plate (collier de reprise 22) that is stationary when in operation is arranged in front of the drum cover and outside the spinner drum and extends away from the drum cover (24) at least in sections, said deflector plate having an inner sheath whose distance from the rotational axis is not constant, but extends or increases.

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